

# Work Order ID 87130

**\*87130\***

Page 1

July-11-12 8:53:17 AM


Item ID: D119-646-143  
 Revision ID:  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00  
 Required Date: 8/01/12 Req'd Qty: 1.00  
 Reference:

Accept

**\*N900040100\***

Setup Start **\*NS1\***  
 Stop **\*NS2\***

Cust Item ID:  
 Customer:

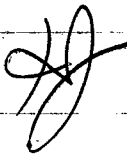
Approvals: Process Plan:  Date: 12/07/12 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***  
 Stop **\*NR2\***


Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3905	B
D3905-043,-11	B
IIN-D119-646	B

100	0.00	
<b>*100*</b>		
DC	0.00	
Document Control	Memo	
	Photocopy bluefile & type labels per PPP D119-646-143	
	CHG 001	

N/A 

110	0.00	
<b>*110*</b>		
Skidtubes	Memo	
Skidtubes	1- Inspect Mat'l D2500-1-190 for damage	
	2- Ensure squareness of ends	

>  12-8-29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 87130

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July-11-12 8:53:17 AM

Item ID: D119-646-143 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 \*1\* Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 \*1\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00							
*120*									
HandFinish	Memo	0.00				1	76	2829	
Hand Finishing									
130	QC3- Inspect Part Finish	0.00							
*130*									
QC	Memo	0.00				①	SAD	12.08.29	
Quality Control									
150		0.00							
*150*									
Skidtubes	Memo	0.00				①	SAD	12.09.09	
Skidtubes	1- Install drill jig DT9480 drill all x-bolt spacer holes using 3/16 drill								
	2- Scribe batch # inside aft end of tube								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
155		0.00							

**\*155\***

CNC Bend 1

CNC Delta 100 Bender

## Memo

1- Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Must use bending Aid DT9538, located 23.25" from Aft end.

2- Esure bending Aid DT9538 is positioned correctly, that the bender set up in on full wide and that the indexing ridge is covered with graphite grease.



12-9-4

165

QC5- Inspect part completeness to step on-W/O

0.00

**\*165\***

QC

Quality Control

## Memo

0.00

1 0 12-09-05



W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143 Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 8/01/12 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180

0.00

**\*180\***

Skidtubes

Skidtubes

Memo

0.00

1- Verify dimention of bend as per dwg D3905

2- Buff out marks left from bending.

3- Drill Aft Float bag holes using DT9493 as per dwg D3905 detail G and section F-F, spot face most fwd, top facing wearplate holes to 0.5626" to accomodate insert (1 per side) open to finished size

4- Drill Aft wearplate and wearpad holes using DT9545 as per dwg D3905 detail H open to finished size

5- Open x-bolt spacer holes to finished size as per dwg (sections D-D and E-E)  
\*\*\*DO NOT OPEN FWD SADDLE HOLES\*\*\*

6- Deburr, blow out chips from inside of tube

7-Bond web in place as per Dwg D3905 & QSI 015.

A/RSikaflex-291 122443

Sikaflex expire date: 13103114

Start: 12-09-04

Time: 5h00

Finish: 12-09-20

Time: 9:00

\*\*\*\*\* (Adhere for 12 hours) \*\*\*\*\*

①

SAD

12-09-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description:	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC5- Inspect part completeness to step on W/O	0.00							
<b>*190*</b>									
QC	Memo	0.00							
Quality Control									
200		0.00							
<b>*200*</b>									
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	1- Bend Fwd end of tube using bender 1 and bend prog. D3905 Fwd.Use bending aid DT9544 ensure proper positioning  2- Cut Fwd end of tube as per dwg. ***VERIFY MEASUREMENT BEFORE CUTTING***								

DAS  
03  
89

DP 12-9-6

>

12/09/06

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: 2-8-1		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 \*1\* Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 \*1\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210		0.00							
*210*						1	0	CF 12-9-7	
Skidtubes	Memo	0.00							
Skidtubes	1- Buff out marks left from bending								
	2- Drill Fwd cap holes using DT8215. Open Fwd and Aft cap holes to 0.208"								
	3- Open Fwd saddle holes to finished size as per dwg								
	4- Drill Fwd x-bolt hole and open to finished size. (Holes must be laid out manually)								
	5- Drill towing hole and open to finished size. (Holes must be laid out manually)								
	6- Drill wearplate holes using DT9613, open to finished size as per dwg D3905-043								
	7- Deburr, blow out chips from inside of tube.								
220	QC5- Inspect part completeness to step on W/O	0.00							
*220*						1	0	12-09-20	
QC	Memo	0.00							
Quality Control									



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 8/01/12 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Run Start \*NR1\*

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

224

0.00

\*224\*

Skidtubes

Skidtubes

Memo

1- Countersink x-bolt holes as per dwg

2- Remove alodine prepare for welding

3- Insert x-bolt spacers

4- Weld x-bolt spacer as per dwg

A/R Alum rod Batch: M122399

5- Grind welds flush as per dwg

6- Counter bore x-bolt holes as per dwg

7- Deburr

0.00

CF 12-9-20

BE 12/09/25

SA 12-09-26

DC 12/09/26

0.00

DAS 16 12/01/26

0.00

225

QC5- Inspect part completeness to step on W/O

\*225\*

QC

Quality Control

Memo

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
226	QC10- Inspect visual per QSI004- ground welds	0.00							
<b>*226*</b>									
QC	Memo	0.00							
Quality Control									
227	Pressure Wash per QSI005 4.3	0.00							
<b>*227*</b>									
HandFinish	Memo	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								
240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
<b>*240*</b>									
Powdercoat	Memo	0.00							
Powder Coating									

Start Time: 11:45  
 Temp: 3200 F  
 Finish Time: 12:15  
 12/09/27

M122878

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries



July-11-12 8:53:18 AM

**Item ID:** D119-646-143

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Revision ID:

Stop **\*NS2\***

**Item Name:** Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

**Start Date:** 7/11/12      **Start Qty:** 1.00      **\*1\***

**Cust Item ID:**

**Required Date: 8/01/12      Req'd Qty: 1.00      \*1\***

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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245

### QC3- Inspect Part Finish

0.00

**\*245\***

QC

## Memo

0.00

## Quality Control

250

0.00

**\*250\***

HandFinish

## Memo

## Hand Finishing

1-Install inserts as per Dwg D3905.

260

QC5- Inspect part completeness to step on W/O

0.00

**\*260\***

QC

## Memo

## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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# Work Order ID 87130

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July-11-12 8:53:18 AM

Item ID: D119-646-143 Accept **\*N900040100\*** Setup Start **\*NS1\***  
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 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 **\*1\*** Customer:  
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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
<b>*270*</b>									
HandFinish									
Hand Finishing	<p>Memo</p> <p>1-Install wearpads, gaskets and wearplates as per Dwg D3905. Put sikaflex in insert before installing bolts and washers            A/RSikaflex-240/-291 <u>123025</u>            Sikaflex expire date: <u>13/03</u></p> <p>2- install plugs assembly with o-ring lube as per dwg.            A/R o-ring lube 55 Batch: <u>121651</u></p> <p>3 -Inspect for foreign objects as per QSI 024</p> <p>4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive.            A/RSikaflex-240/-291 <u>123025</u>            Sikaflex expire date: <u>13/03</u></p> <p>5- Wing Walk as per dwg QSI005 4.4            Batch: <u>122500</u></p>	0.00							12/16/01
280	QC5- Inspect part completeness to step on W/O	0.00							
<b>*280*</b>									
QC									
Quality Control	<p>Memo</p> <p>Smb 12.0.01 15 12/10/01</p>	0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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July-11-12 8:53:18 AM

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Item ID: D119-646-143 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads  
 Start Date: 7/11/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/01/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
286 <b>*286*</b> QC Quality Control	QC3- Inspect Part Finish  Memo	0.00 0.00	SMB 12-10-01 16 9-83 17/10/01			1			
290 <b>*290*</b> Packaging Packaging	Identify as per dwg & Stock Location: _____  Memo PPN 87506	0.00 0.00							12/10/03 (1)
300 <b>*300*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							12/10/14 JF  W121004

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 1

Work Order ID: 87130

Parent Item: D119-646-143

Parent Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12

Required Date: 8/01/12

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Iter.	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3492-5 Plug		Manufactured	No			270	Each	127.0000	16	16	16	12/09/28	
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				fpa		127							
				83100		26							
				83530 ✓		101							
NAS1611-005 O-RING		Purchased	No			270	Each	132.0000	16	16	16	12/09/28	
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				FP001 122441		132							
				106099		18							
				114220		38							
				119438		36							
				121415		40							
D2500-1-190 Ext'n -I' Beam Tube 4"		Manufactured	No			110	Each	138.0000	1	1	1	12-8-29	
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				HALL		138							
				74777		8							
				80061		38							
				85483		92							
D3885-3 Standard Web		Manufactured	No			170	Each	6.0000	1	1	1	12-09-05	
				<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>						
				LG		6							
				52425		6							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Page 2

Work Order ID: 87130

Parent Item: D119-646-143

Parent Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12

Required Date: 8/01/12

Start Qty: 1.00

Required Qty: 1.00

D3903-1	Manufactured	No	190	Each	22.0000	12	12	
Spacer								BE12-09-25 B88375 *1 B87414 *11
		<u>Location</u>	<u>Loc Qty</u>		<u>Loc Code</u>			
		LG001	22					
		78790	22					
D3681-1	Manufactured	No	190	Each	89.0000	8	8	
Spacer								BE12-09-25 B88502 *7 B87611 *1
		<u>Location</u>	<u>Loc Qty</u>		<u>Loc Code</u>			
		LG	79					
		80361	1					
		85417	78					
		LG001	10					
		68958	2					
		69893	2					
		71845	2					
		74874	1					
		76004	1					
		77501	2					
D3683-3	Purchased	No	250	Each	550.0000	12	12	
Insert						12	12	12/09/28
		<u>Location</u>	<u>Loc Qty</u>		<u>Loc Code</u>			
		FP002	14					
		47805 ✓	14					
		ST060	536					
		47805	536					

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Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

July-11-12 8:53:17 AM

Page 3

Work Order ID: 87130

Parent Item: D119-646-143

Parent Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12

Required Date: 8/01/12

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

250

Each

1,209.0000

42

42

Insert

42 42 12/09/28

## Location

## Loc Qty

## Loc Code

ST280 122474 ✓  
119084 116  
120671 89  
ST281 44  
120807 36  
120837 8  
ST282 960  
121269 960

D2855-3

Manufactured

No

270

Each

16.0000

2

2

Cap

2 2 12/09/28

## Location

## Loc Qty

## Loc Code

FP002 16  
52281 ✓ 5  
75080 ✓ 11

D3672-1

Manufactured

No

270

Each

1,362.0000

4

4

Phenolic Washer

4 4 12/09/28

## Location

## Loc Qty

## Loc Code

ST060 1362  
72229 4  
76277 13  
80369 ✓ 335  
83608 500  
85222 510

D3846-1

Manufactured

No

270

Each

33.0000

1

1

GASKET

1 1 12/09/28

## Location

## Loc Qty

## Loc Code

FP002 33  
51827 4  
53735 29

\* \* \*

55555 ✓

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Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 4

Work Order ID: 87130

Parent Item: D119-646-143

Parent Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12

Required Date: 8/01/12

Start Qty: 1.00

Required Qty: 1.00

D3846-11 GASKET	Manufactured	No	270	Each	10.0000	1	1	12/09/28
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FP002	10				
			51833 ✓	10				
D3847-1 WEARPAD	Manufactured	No	270	Each	24.0000	8	8	12/09/28
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FP002	24				
			51824 ✓	12				
			78887 ✓	12				
D3847-11 WEARPAD	Manufactured	No	270	Each	9.0000	1	1	12/09/28
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FP002	9				
			51823 ✓	9				
D3672-3 Phenolic Washer	Manufactured	No	270	Each	1,211.0000	12	12	12/09/28
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			ST060	1211				
			84361	211				
			84432 ✓	500				
			86517	500				

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 5

Work Order ID: 87130

Parent Item: D119-646-143

Parent Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12

Required Date: 8/01/12

Start Qty: 1.00

Required Qty: 1.00

AN3C5A	Purchased	No	270	Each	1,407.0000	46	46	12/09/28
Bolt						46	24	

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Page 6

Work Order ID: 87130

Parent Item: D119-646-143

Parent Item Name: Replacement Float Skidtube w/ Full Length Wearplates & Wearpads

Start Date: 7/11/12

Required Date: 8/01/12

Start Qty: 1.00

Required Qty: 1.00

D3847-043 Manufactured No 270 Each 4.0000  
FWD WEARPLATE ASSY, STD/ FLOAT GEAR

1 1 12/09/28

Location

FP001

51820

52533

Loc Qty

4

3

1

Loc Code

D3847-045  
CENTER WEARPLATE ASSY, STD/FLOAT

Manufactured No

270 Each 2.0000

1 1 12/09/28

Location

FP001

51821

52534

Loc Qty

2

2

Loc Code

D3847-049  
AFT WEARPLATE ASSY, FLOAT GEAR

Manufactured No

270 Each 4.0000

1 1 12/09/28

Location

FP001

51822

Loc Qty

4

4

Loc Code

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Page 6

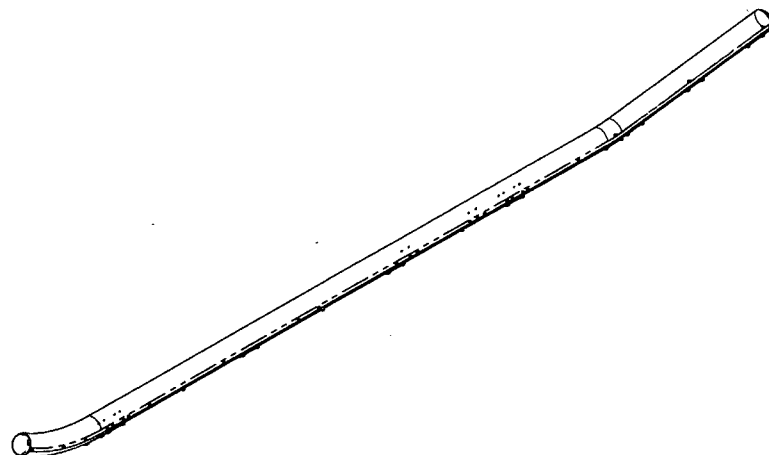
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)**  
**D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)**  
**D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-3 FLOAT WEB  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3905-041 = 40.7 lbs  
D3905-043 = 47.0 lbs  
D3905-045 = 47.3 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8932 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3905-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3905-041	FLOAT SKIDTUBE ASSY WITH WEARPAD
2		X		D3905-043	FLOAT SKIDTUBE ASSY WITH WEARPLATE
3			X	D3905-045	FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
11	2	2	2	D2855-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	4	4	4	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
15	8	1	1	D3846-1	GASKET
16	1	1	1	D3846-11	GASKET
17	8	8	1	D3847-1	WEARPAD
18	1	1	1	D3847-11	WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-049	AFT WEARPLATE ASSY
22			1	D3849-047	FWD WEARPLATE ASSY
23			1	D3849-045	AFT WEARPLATE ASSY
24	1	1	1	D3885-3	FLOAT WEB
25	1	1		D3905-11	FLOAT SKIDTUBE
26			1	D3905-13	FLOAT SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
29	12	12	12	D3672-3	WASHER
30	12	12	12	D3683-3	INSERT
31			16	D3411-3	WASHER
41	42	42	10	ALS4-1032-130	INSERT
42	46	46	14	AN3C5A	BOLT
43			4	AN3C46A	BOLT
44			4	AN3C50A	BOLT
45	46	46	10	NAS1149C0332R	WASHER (OR AN960C10L)
46	12	12	12	NAS1149C0463R	WASHER (OR AN960C416)
47			8	MS21043-3	NUT
48	12	12	12	MS27039C4-08	SCREW

87130  
 1207-12

RELEASED  
 09/15/12

REVISED PART LIST. ALS4-1032-130 WAS AELS-1032-130 (ZN A6-5, A5-6, C5-7, C3-7, A5-7); ADD DT8932 (ZN A8-1); D2855-3 WAS D2575 (ZN C8-2, C1-2, C6-3, C1-3, C6-4, C1-4); AN3C5A WAS AN3C4A (ZN C7-2, C1-2, C7-3, C1-3, C7-4, C1-4); D3849-047 WAS D3849-041 (ZN B3-4); ADD D3411-3 (ZN B3-4); ADD AN3C50A (ZN B3-4); Ø0.313 WAS Ø0.328 (B2-5, B2-6, C2-7, A8-7 & D7-8); REVISED NOTE IV (ZN A6-7)		RF	09.06.30
A NEW ISSUE		RF	09.03.30
REV.	DESCRIPTION		DATE
DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3905	SHEET 1 OF 8
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	A119 FLOAT SKIDTUBE ASSY	NTS
DATE	09.06.30	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.	
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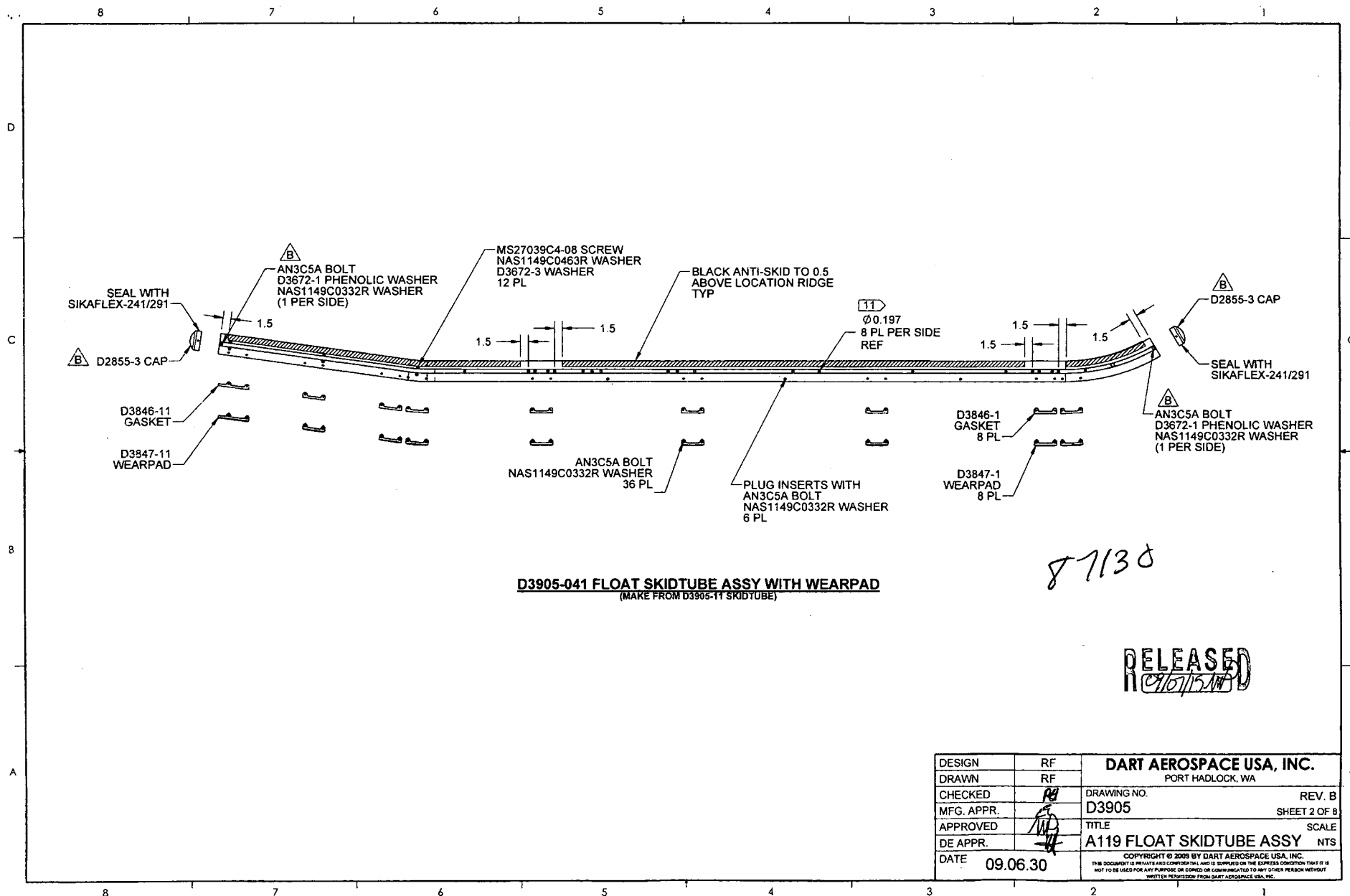
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



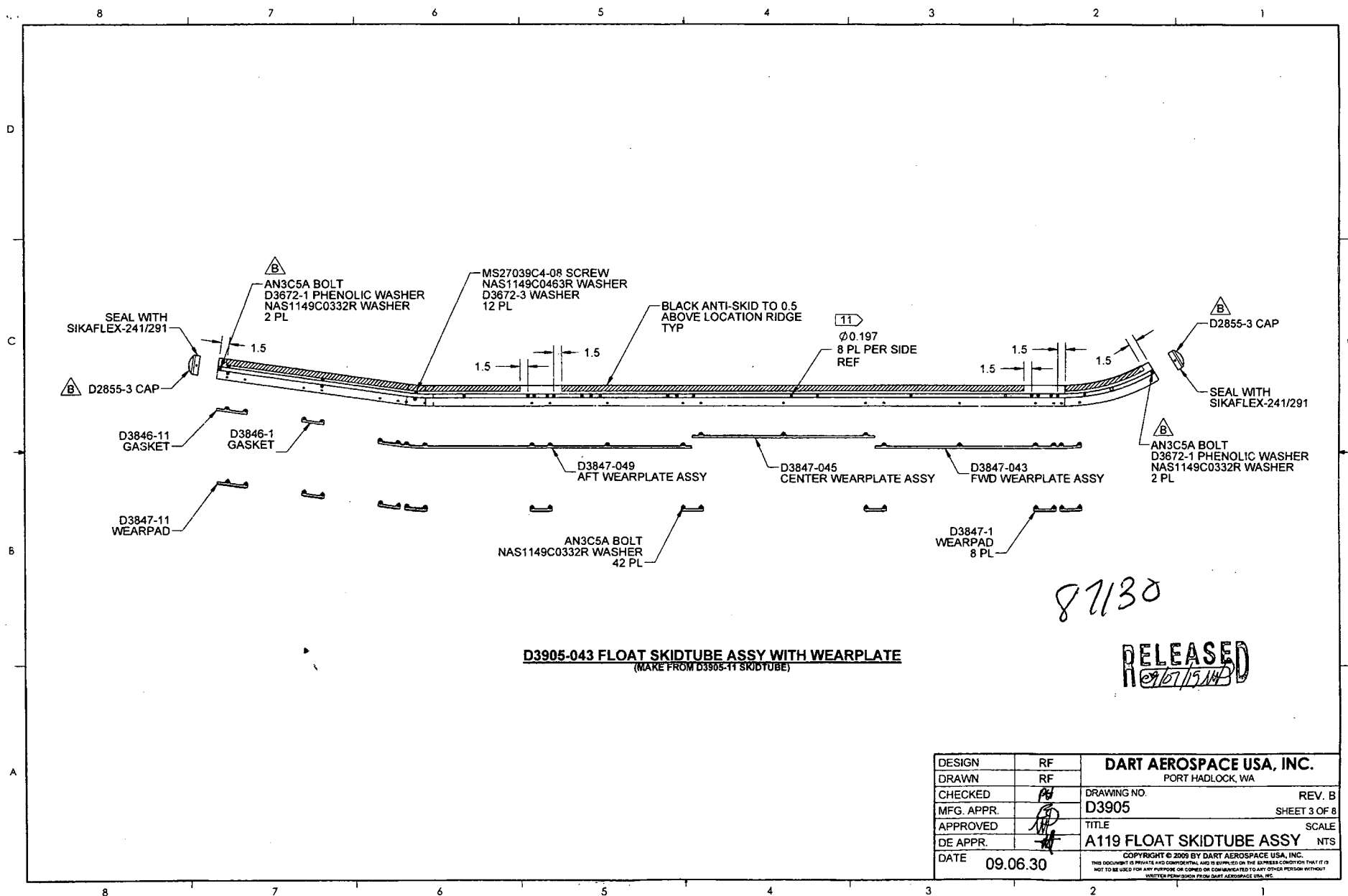
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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SEAL WITH  
SIKAFLEX-241/291

D2855-3 CAP

D3846-11 GASKET

D3847-11  
WEARPAD

AN3C5A BOLT  
NAS1149C0332R WASHER  
10 PL

AN3C5A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
(1 PER SIDE)

MS27039C4-08 SCREW  
NAS1149C0463R WASHER  
D3672-3 WASHER  
12 PL

BLACK ANTI-SKID TO 0.5  
ABOVE LOCATION RIDGE  
TYP

D2855-3 CAP  
SEAL WITH  
SIKAFLEX-241/291

AN3C5A BOLT  
D3672-1 PHENOLIC WASHER  
NAS1149C0332R WASHER  
2 PL

D3849-045  
AFT TRAINING WEARPLATE ASSY

AN3C50A BOLT  
D3904-1 WASHER, 2 PL  
D3411-3 WASHER, 4 PL  
MS21043-3 NUT  
4 PL

**D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE**  
(MAKE FROM D3905-13 SKIDTUBE)

87130

RELEASED  
07/17/15

DESIGN	RF	DART AEROSPACE USA, INC.	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3905	SHEET 4 OF 8
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	A119 FLOAT SKIDTUBE ASSY	NTS
DATE	09.06.30	<small>COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

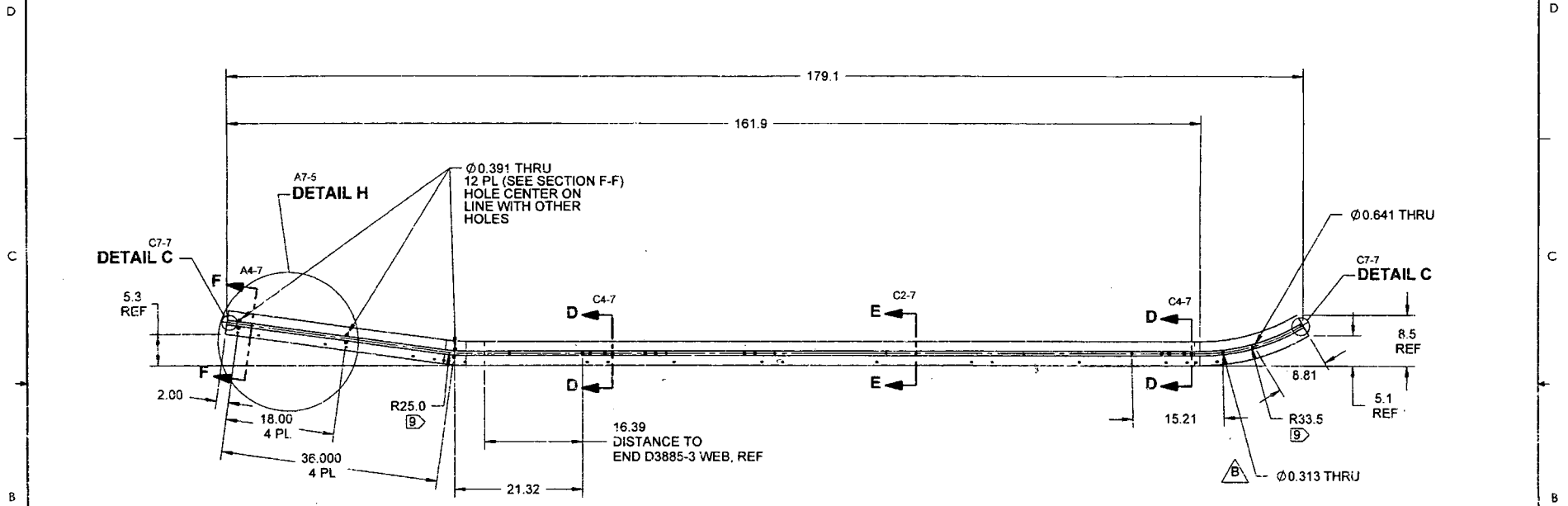
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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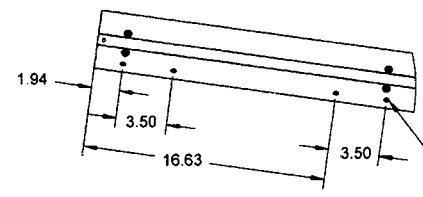
8 7 6 5 4 3 2 1



**D3905-11 FLOAT SKIDTUBE**  
(MAKE FROM D3905-1 TUBE)

87130

RELEASED  
07/07/15



DRILL Ø0.297  
INSTALL ALS4-1032-130 INSERT  
AFTER FINISH, SEE SECTION F-F  
TYP, 2 PL

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO. D3905	REV. B
MFG APPR.	RF	SHEET 5 OF 8	
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	<b>A119 FLOAT SKIDTUBE ASSY</b>	
DATE	09.06.30	NTS	

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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng/ Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

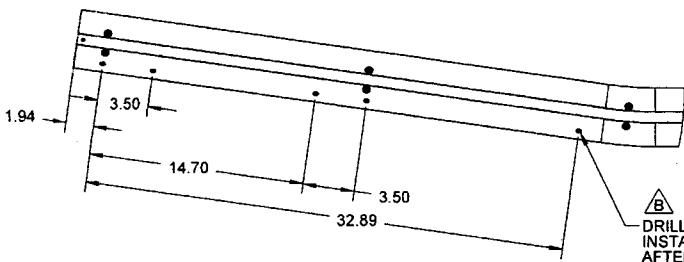
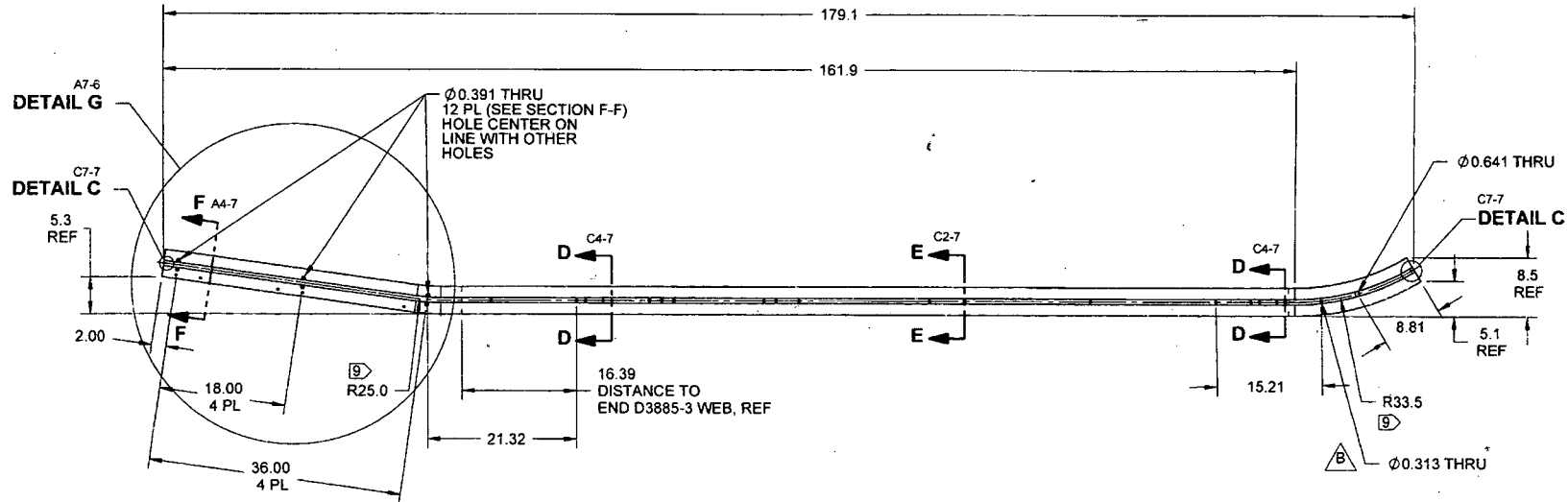
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8 7 6 5 4 3 2 1

D C B A



**D3905-13 FLOAT SKIDTUBE**  
(MAKE FROM D3905-1 TUBE)

87130

**RELEASED**  
29/07/15

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO. <b>D3905</b>	REV. B
MFG. APPR.	RF	SHEET 6 OF 8	
APPROVED	RF	TITLE	
DE APPR.	RF	<b>A119 FLOAT SKIDTUBE ASSY</b>	
DATE	09.06.30	NTS	

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8 7 6 5 4 3 2 1

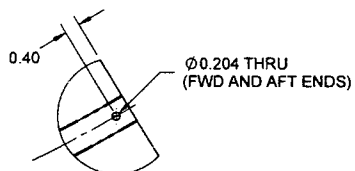
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

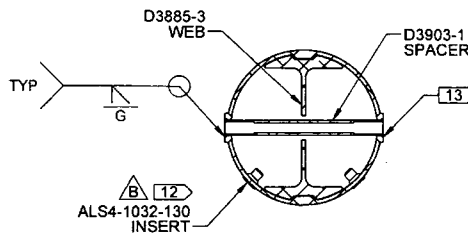
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



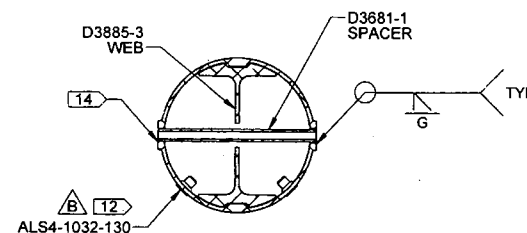
**DETAIL C**  
SCALE 4X  
C1-5  
C8-5  
C8-6  
C1-6



**SECTION D-D**  
SCALE 4X  
C5-5  
C2-5  
C5-6  
C2-6

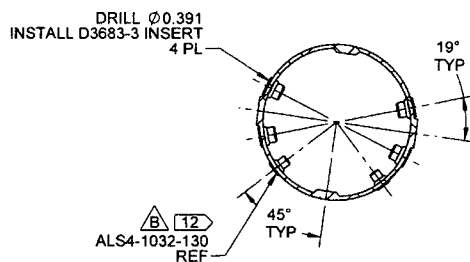
(FOR 12 x  $\phi 0.375$  HOLES  
PER SKIDTUBE)

*Per Side*



**SECTION E-E**  
SCALE 4X  
C4-5  
C4-6

(FOR 8 x  $\phi 0.313$  HOLES  
PER SKIDTUBE)



**SECTION F-F**  
SCALE 4X  
C7-5  
C7-6

**NOTES:**

- 13) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.375$  HOLES ONLY:  
i) CHAMFER HOLES  $\phi 0.475 \times 45^\circ$  (BOTH SIDES)  
ii) INSERT D3903-1 SPACER  
iii) WELD INTO PLACE AND GRIND FLUSH  
iv) C'BORE TO  $0.313 \times 0.75$  DEEP  
v) DEBURR HOLES

- 14) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR  $\phi 0.313$  HOLES ONLY:  
vi) CHAMFER HOLES  $\phi 0.354 \times 45^\circ$  OR  $0.050$  DEEP  $\times 45^\circ$  (BOTH SIDES)  
vii) INSERT D3681-1 SPACER  
viii) WELD INTO PLACE AND GRIND FLUSH  
ix) DEBURR HOLES

87130

**RELEASED**  
09/07/15

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.		D3905	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 FLOAT SKIDTUBE ASSY	NTS
DATE	09.06.30	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

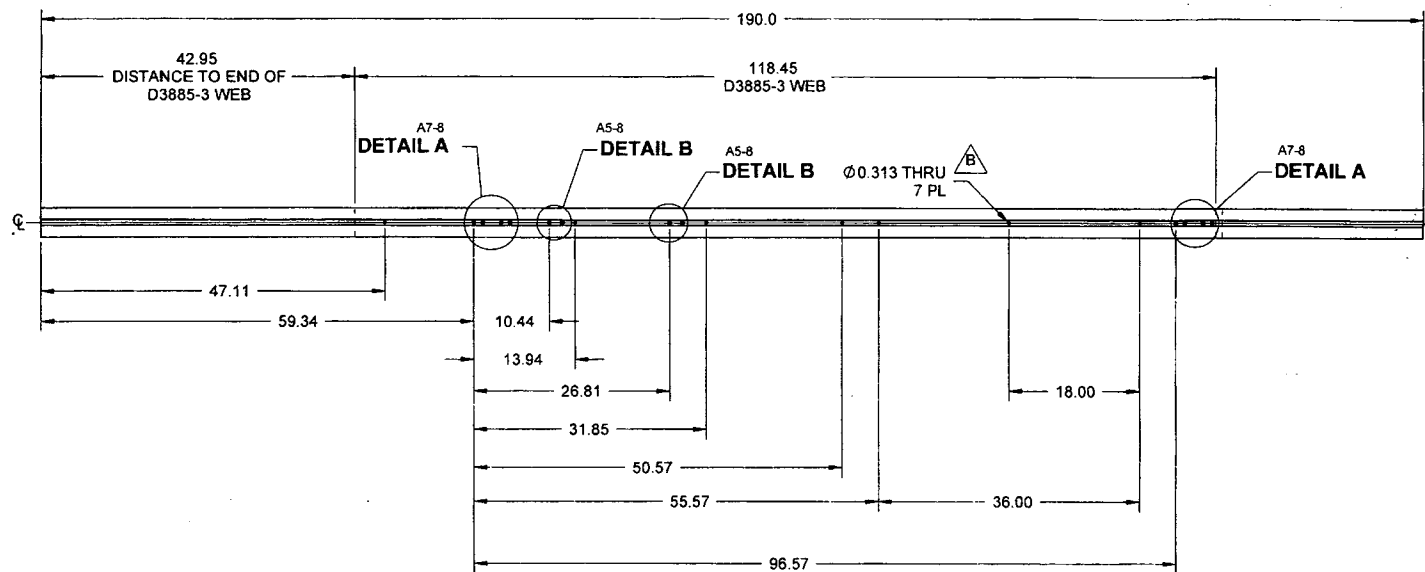
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

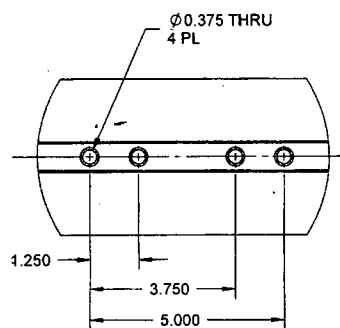
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

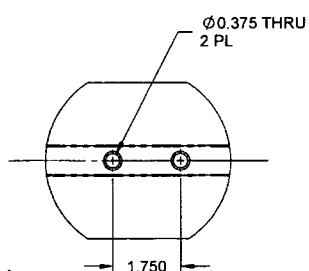




**D3905-1 TUBE**  
(MAKE FROM D2500-1-190 EXTRUSION)



**DETAIL A**  
SCALE 4X  
D6-8  
D2-8



**DETAIL B**  
SCALE 4X  
D5-8  
D4-8

*SA113C*

**RELEASED**  
*2/16/15/102*

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	<b>D3905</b>	SHEET 8 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>A119 FLOAT SKIDTUBE ASSY</b>	NTS
DATE	<b>09.06.30</b>	<small>COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 288

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 74794  
Part number: A119-646-241  
Description: Skid tube  
Welding Process: Tig~~h~~ Mig~~h~~ ☐  
Base material: Alum.  
Current: AC~~h~~ DC~~h~~ ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass~~h~~ fail~~h~~ ☐  
Penetration: pass~~h~~ fail~~h~~ ☐

UNACCEPTABLE

Cracks: pass~~h~~ fail~~h~~ ☐  
Undercut: pass~~h~~ fail~~h~~ ☐  
Pin holes: pass~~h~~ fail~~h~~ ☐  
Overlap (cold lap): pass~~h~~ fail~~h~~ ☐  
Porosity (surface): pass~~h~~ fail~~h~~ ☐  
Coloration: pass~~h~~ fail~~h~~ ☐

Qualifier David Leung Date of Test Coupon 12.04.16  
Welder Barclay Elliott Date of Test Coupon 12-04-16

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

# Work Order ID 87133

**\*87133\***

Page 1

July-11-12 8:53:58 AM

Item ID: D2235-1

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Basket Rib

Start Date: 7/11/12 Start Qty: 4.00

**\*4\*** 10X  
**\*4\***

Cust Item ID:

Required Date: 7/11/12 Req'd Qty: 4.00

Customer:

Reference:

Approvals: Process Plan: 

Date: 20712

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2235	Rev B1

100	Large Fab	0.00							
<b>*100*</b>									
Large Fab	Memo	0.00							
Large Fab	1- Pick D3166-1 and cut as per dwg D2235 using DT83022- remove identification markings on tube 3- deburr								

10x  12-10-3

110	QC6- Inspect dimensions to drawing	0.00							
<b>*110*</b>									
QC	Memo	0.00							
Quality Control									

10x  12-10-03

120	Identify as per dwg & Stock Location: _____	0.00							
<b>*120*</b>									
Packaging	Memo	0.00							
Packaging									

10x  12-10-03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 87133**

July-11-12 8:53:58 AM

**\*87133\***

Page 2

Item ID: D2235-1

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Basket Rib

Start Date: 7/11/12 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 7/11/12 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC21- Final Inspection - Work Order Release	0.00							
<b>*130*</b>									
QC	Memo	0.00							
Quality Control									

12/10/578

ME

12-10-04

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

July-11-12 8:53:57 AM

Page 1

Work Order ID: 87133

Parent Item: D2235-1

Parent Item Name: Basket Rib

Start Date: 7/11/12

Required Date: 7/11/12

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 08-12-01 DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3166-1 Basket Hoop		Manufactured	No			100	Each	10.0000	1	4		CC 17-10-3	

Location

WA

84712

Loc Qty

10

10

Loc Code

B 87920



LOX



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

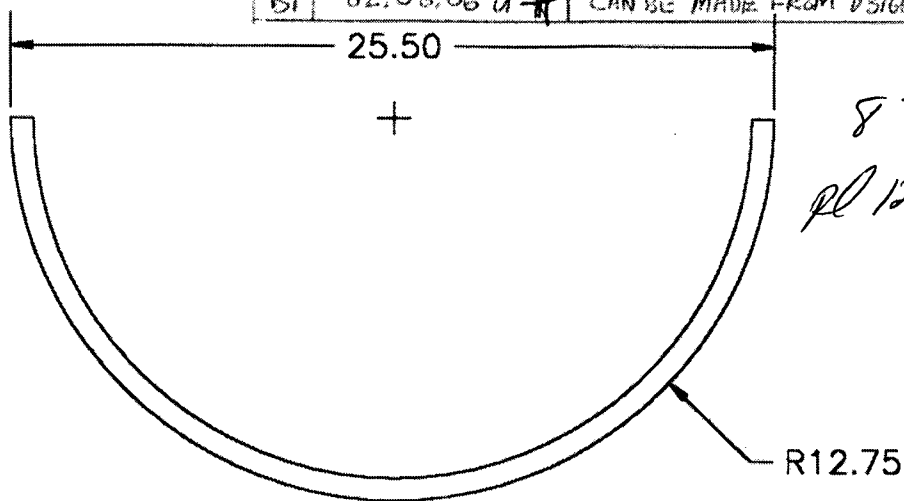
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**NOTE:** Date & initial all entries

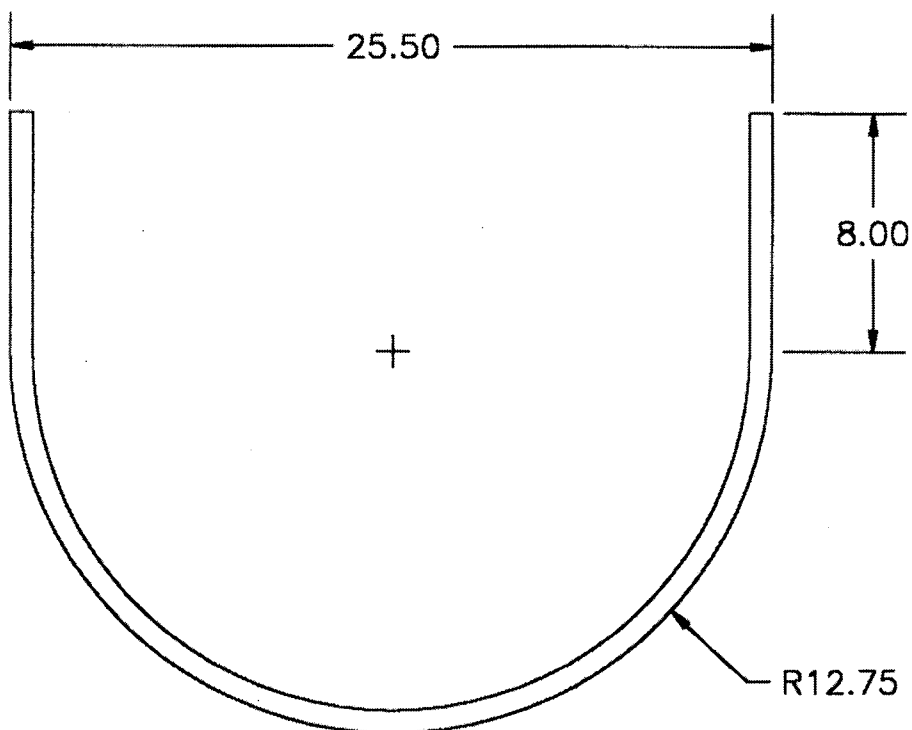


DESIGN B WILLIAMS	DRAWN BY B WILLIAMS	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED <i>BW</i>	APPROVED <i>BW</i>	DRAWING NO. D2235	REV. B SHEET 1 OF 1
DATE 94:12:16		TITLE BASKET RIBS	SCALE
BI 02.08.06 <i>UP</i>		CAN BE MADE FROM D3166-1	


RELEASED  
N 960507



D2235-1



D2235-3

CAN BE MADE FROM D3166-1   
MATERIAL: 304/316 SS, 3/4 X 3/4 X 0.063 WALL SQR.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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